



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/000,098

12/04/2001

Hajime Bungo

D-1175

8963

7590

11/05/2003

KANESAKA AND TAKEUCHI  
1423 Powhatan Street  
Alexandria, VA 22314

EXAMINER

LAUCHMAN, LAYLA G

ART UNIT

PAPER NUMBER

2877

DATE MAILED: 11/05/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/000,098

Applicant(s)

BUNGO, HAJIME

Examiner

L. G. Lauchman

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_ 6) ☐ Other: \_\_\_\_

***Priority***

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1 and 2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al (US 6,377,899), and further in view of Kallet (3,740,147).

As to Claim 1, the patent to Sakai et al teaches a spectrophotometer (see Fig. 1), comprising:

a light source 1 including a detection lamp for irradiating light in a wavelength region used for detection and a wavelength check lamp having a bright line in the wavelength region used for detection (see col. 2, lines 65-67, also col. 1, lines 56-65);

a light detecting section 7 for detecting the light from the detection position 6 (see col. 3, lines 9-20),

a spectral element 3, which is a part of a monochromator 2 (see col. 3, lines 1-8), provided on an optical path between the light source 1 and the detection position 6 and an optical path between the detection position 6 and the light detecting section;

a spectral element driving mechanism 4 connected to the spectral element for changing an angle of the spectral element; and

a reference position detecting section 10 for detecting a reference position of the spectral element where one of a zero-order light and a bright light is ejected on the detection position based on electric signals from the light detecting section 7 and the dispersing element driving mechanism 4 (see col. 4, lines 25-43).

The patent to Sakai et al does not specifically disclose an optical system for irradiating light from the light source to a detection system, however, the patent teaches a monochromator 2 including the spectral element (grating) 3 for irradiating light from the light source 1 to the detection system 6 .

Kallet teaches that a conventional monochromator 18 (see Fig. 1) includes an optical system of two mirrors 26 and 28 and a grating 24. Therefore, it would have been obvious to use two mirrors in the monochromator of Sakai in order to have the optical system since a conventional monochromator, according to the definition, consists of mirrors and a grating (see the patent'147, col. 2, lines 15-25).

As to Claim 2, the patents Sakai et al and Kalett teach everything as applied to Claim 1, and in addition, Sakai et al teach that the detection lamp is formed of a deuterium lamp and the wavelength check lamp is formed of mercury lamp (see col. 4, lines 25-32).

Claims 3 and 4 are is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakai et al (US 6,377,899), in view of Kallet (3,740,147), and further in view of Fujita (JP 10-241567).

As to Claim 3, the patents Sakai et al and Kallet teach everything as applied to Claim 1 above, except that Sakai does not specify if one of the lamps is a see-through type and if they are disposed on a same optical path. However, Fujita teaches a device capable of checking accuracy of a wavelength of a spectrophotometer. The device includes a see-through deuterium lamp 11 and a low-pressure mercury lamp 8 positioned on a same optical path. Therefore, it would have been obvious to have one of the light sources in Sakai's invention as a see-through type lamp and place the lamps on a same optical path in order to provide reliability of the control values and wavelength values of the bright lines.

As to Claim 4, the patents Sakai et al and Kallet teach everything as applied to Claim 1 above, in addition, the reference position detecting section controls operations of the lamps, operations of spectral element driving mechanism, and operations of the light detecting section. The patents to Sakai and Kalett do not specifically disclose that the deuterium and mercury lamps are being switched on and off sequentially, however, Fujita teaches a device capable of checking accuracy of a wavelength of a spectrophotometer by turning the deuterium lamp and mercury lamp on and off (see English translation, paragraphs 10 and 11). It would have been obvious to one skilled

Art Unit: 2877

in the art to have the lamps of Sakai to be turned on and off sequentially in order to prevent shortening the life of the deuterium lamp or mercury lamp.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

*Hammer* teaches a monochromator providing variable spectral resolution. *Kanomata et al* teach use of a tungsten lamp and a see-through deuterium lamp in a detector for liquid chromatography. *Nelson* teaches an automatic digital wavelength calibration for a spectrometer. *Morley et al* teaches a spectrophotometer having wavelength selecting structure. *Tohyama et al* teach a calibrating apparatus in a monochromator.

Papers related to this application may be submitted to Technology Center 2800 by facsimile transmission. Papers should be faxed to TC 2877 via the PTO Fax Center located in CP4-4C23. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The CP4 Fax Center number is (703) 872-9306.

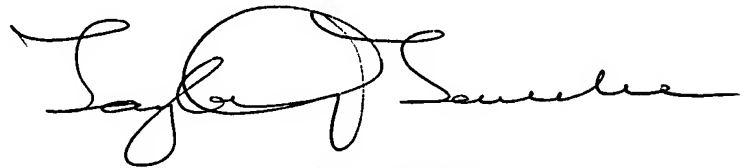
If the Applicant wishes to send a Fax dealing with either a Proposed Amendment or for discussion for a phone interview then the fax should:

- a) Contain either the statement "DRAFT" or "PROPOSED AMENDMENT" on the Fax Cover Sheet; and
- b) Should be unsigned by the attorney or agent.

This will ensure that it will not be entered into the case and will be forwarded to the examiner as quickly as possible.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to L. G. Lauchman whose telephone number is (703) 305-0071.

Any inquiry of a general nature or relating to the status of this application should be directed to the TC receptionist whose telephone number is (703) 308-0956.

A handwritten signature in cursive script, appearing to read "L. G. Lauchman".

L. G. Lauchman  
Patent Examiner  
Art Unit 2877  
10/23/03/lgl